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| EXAMINER |
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MARANDI, JAMES R

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2421

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/597,382 | Applicant(s) BENJES ET AL. | |
| | Examiner JAMES R. MARANDI | Art Unit 2421 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 17 and 18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

2.1. Claim 17 is directed to software/ computer program per se. Computer programs claimed as computer listings per se, i.e. the descriptions or expressions of the programs, are not physical “things”. They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationship between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer (e.g. when executed by a processor) which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035

2.2. Claim 18 is directed to a signal. A transitory, propagating signal is not a process, machine, manufacture, or composition of matter. Thus, such a signal cannot be patentable subject matter. *See, e.g., In re Nuijten, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007)*

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent; or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English.

4. Claims 1- 14, and 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Champel et al., USPGPUB 2005/0229232 (hereinafter “Champel”).

4.1. Regarding claim 1, Champel discloses **a method of processing an application at a terminal in a digital broadcasting system** (Abstract, Fig. 1), **the terminal supporting a virtual machine (¶ [6]) which is arranged to process applications in a first code format** (Virtual machine receives and processes Java Intermediate code, I, and processes the code to “N” native code format. So

"N" is the first code format, and the Java code is the second format. See ¶¶ [6]-[8]), **the method comprising the steps of:**

receiving an application in a second code format (Java code); and
converting at least part of the application into the first code format
(native code "N"). Also see ¶¶ [40] - [46]

4.1.1. Regarding claim 2, **wherein the step of converting the application comprises compiling the content into the first code format**, Fig. 1, CE, compiling engine, compiles code I (second format) to N (first code format).

4.1.1.1. Regarding claim 3, **executing the compiled application**, Fig. 1, the application code "I" are compiled by CE and either routed to Execution Engine "EE" directly (4), or via Cache "C" (3,6), see ¶ [42].

4.1.2. Regarding claim 4, **storing the converted code**, after code "I" is compiled via CE, it is stored in Cache "C" (3).

4.1.3. Regarding claim 5, **storing the received application before converting the application into the first code format**, the Loading Engine "LE" stores the received application ¶¶ [11] - [13].

- 4.1.3.1. Regarding claim 6, **monitoring activity of the virtual machine and selecting a time at which to convert the application into the first code format based on the monitored activity**, receiving of the application is monitored to see which portion of codes are available for translation and are complete so the execution may start. The system is aware of the portions not received and translated so they can be subsequently interpreted for a complete application execution ¶ [22]. Also, the execution of the application may be initiated by the user, while the system monitors/ loads the components necessary for running the application ¶ [23].
- 4.1.3.2. Regarding claim 7, **interpreting the received application into the first code format and monitoring usage of the interpreted application, and wherein the application is compiled into the first code format based on the monitored usage**, rejected as claim 6, as analyzed, the system monitors the loading (usage) of the application to determine which portions are compiled and which portions are interpreted ¶ [22].
- 4.1.4. Regarding claim 8, **wherein the converting step comprises interpreting a part of the application and compiling another part of the application into the first code format**, rejected as claim 6, as analyzed,

the system monitors the loading (usage) of the application to determine which portions are compiled and which portions are interpreted ¶ [22].

4.1.4.1. Regarding claim 9, **wherein the application comprises scripted actions and other content, and only the scripted actions are compiled into the first code format**, as described in ¶ [3], DSM-CC carousel is a data stream comprising A/V data along with code and data modules. The code module (programs/ scripted actions) "I" and data "D" are processed as shown in Fig. 1, and "I" is compiled via CE to first code "N".

4.1.5. Regarding claim 10, **wherein only selected applications received in the second code format are converted to the first code format**, application conversion (or portions thereof) is determined by the developer via signaling information as described in ¶ [29]. Furthermore, the execution engine "EE" may also influence the portions compiled (converted) or interpreted as in ¶ [30].

4.1.6. Regarding claim 11, **further comprising sending the converted application to another terminal**,

- 4.1.7. Regarding claim 12, **wherein the virtual machine is a Java virtual machine and the first code format is Java bytecode**, ¶ [6], Java intermediate code/ Java bytecode (also see ¶ [41].
- 4.1.8. Regarding claim 13, **wherein the terminal is a Multimedia Home Platform (MHP) terminal and the complied content is an MHP Xlet**, ¶ [5], version 1.0.3 of MHP standard supports downloadable applications (Xlets), as also admitted by applicant's disclosure, page 1, line 17-18.
- 4.1.9. Regarding claim 14, **wherein the second code format is a legacy transmission code format**, as explained in ¶ [6], the second code format may be "native code"/ legacy code, which may be processed by a standard terminal station.
- 4.1.10. Regarding claim 16, Champel discloses **a control apparatus for a terminal in a digital broadcasting system which is arranged to perform the method according to claim 1**, the data processing apparatus of Fig. 1, ¶¶ [40] - [46]
- 4.1.11. Regarding claim 17, **(Software for controlling operation of a terminal in the manner according to claim 1)**, effectuating the method of

claim 1 is rejected by the same analysis.

4.1.11.1. Regarding claim 18, **A signal, for transmission in a digital broadcasting system, which embodies the software according to claim 17**, is rejected by the same analysis as claim 17.

4.1.12. Regarding claim 19, **a terminal incorporating the control apparatus according to claim 16**, see the terminal/ data processing device of Fig. 1, ¶¶ [40] - [46].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Champel.

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6.1. Regarding claim 15, the system taught by Champel which supports the MHP standard (§ [5]) is silent with respect to supporting applications in the **MHEG-5** format.

However, official notice is taken that it is notoriously well known that MHP utilizes "plug-ins" for supporting applications such as MHEG-5 which are activated when applications are received at the terminal.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention to modify the system of Champel by combining the functionality of Champel's LE,TE, and EE modules in a plug-in to be activated for non-standard formats (e.g. MHEG-5) in order to expand the range of functionality of the receiving terminal.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES R. MARANDI whose telephone number is (571)270-1843. The examiner can normally be reached on 8:00 AM- 5:00 PM M-F, EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

/James R. Marandi/
Examiner, Art Unit 2421